

ABSTRACT

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A process for producing a weather resistant coating film which can keep a gloss retention of 80% or more for 1,000 hours or more in an accelerated weathering test by a carbon sunshine weather-o-meter by preparing a weather resistant coating material comprising a binder and a curing agent as main constituents and coating an article to be coated with the coating material, followed by drying, which process comprises

chemically bonding an ultraviolet absorptive compound having the maximum value of its light absorption spectrum in a wavelength region shorter than 380 nm and having a molecular extinction coefficient at the absorption maximum wavelength of 5,000 to 50,000 to either or both of the binder and the curing agent constituting the coating material,

preparing a coating material with the above-mentioned bonding and the constitution of the coating material being designed such that when the coating material is coated on an article and dried, the concentration C (mol/L) of the residual group of the ultraviolet absorptive compound in the dry coating film may satisfy the expression

$$\epsilon dC \geq 129 \cdot \log \tau - 367$$

wherein ϵ is the molecular extinction coefficient of

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the residual group of the above-mentioned compound in the dry film, d is the thickness (cm) of the dry coating film when in use and τ is the time (hour) of exposure in the accelerated weathering test that shows a gloss retention of 80% or more which is determined according to the requirements of intended uses, and coating the coating material on the article, followed by drying, so that the thickness of the dry coated film may become the above-mentioned d , and a coating material which provides the film.

Provided are a process for producing a coating film excellent in such weather resistances as gloss retainability, resistance to discoloration and resistance to cracking necessary for long-term outdoor uses, and a coating material which gives the film.

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